



North Carolina Department of Environment and Natural Resources  
Division of Air Quality

**Aziridine (Ethylenimine)**

CAS 151-56-4

**Current North Carolina AAL = 0.006 mg/m<sup>3</sup> (24 hour chronic toxicant)**

**AAL Documentation**

The 1977 ACGIH TLV value for aziridine was 0.5 ppm (equivalent to 0.88 mg/m<sup>3</sup>).

A factored TLV approach was used to derive a 24 hour chronic AAL for aziridine (ethylenimine).

In accordance with guidance provided by the North Carolina Academy of Sciences (1986/1987), the following uncertainty factors were used:

- Population variability : Factor of 10
- Time conversion (8 hour work day to continuous exposure): Factor of 4.
- Experimental uncertainty associated with chronic studies: Factor of 2.
- Severity of effect: Factor of 2 (Aziridine is a severe blistering agent which may cause blistering of the skin and permanent corneal opacity and conjunctival scarring).

**Total multiplicative uncertainty factor = 10 x 4 x 2 x 2 = 160**

$$\text{mg/m}^3 \text{ aziridine} = \frac{0.88 \text{ mg/m}^3}{160}$$

$$= 0.006 \text{ mg/m}^3 \text{ (0.0055 rounded to 0.006 mg/m}^3\text{)}$$

This information has been reconstructed using the decision matrix established by the North Carolina Academy of Sciences Air Toxics Panel, September, 1986

*Final version – May 2013 (CMP)*